

CLAIMS:

1. Respiratory apparatus comprising a ventilation mask and means for supplying breathable gasses, under pressure, thereto and means for exhausting gases therefrom, characterised in that the pressuring means is provided substantially at the inlet of the mask.
2. Respiratory apparatus comprising a means for conducting breathable gasses directly to the trachea of a patient, via a tracheotomy or via a tube through the mouth to the trachea, and a means suitable for supplying the breathable gasses, under pressure, thereto and means for exhausting gases therefrom, characterised in that the pressuring means is so located as to impart pressure to said gasses immediately adjacent the site of the tracheotomy or the patient's mouth.
3. Apparatus according to claim 1, further comprising a means for conducting breathable gasses directly to the trachea, via a tracheotomy or via a tube through the mouth to the trachea.
4. Apparatus according to claim 1 or 2, wherein a motor for the pressuring means is co-located therewith.
5. Apparatus according to any preceding claim, where the power supply is portable.
6. Apparatus according to claim 5, where the power supply is in the form of batteries.
7. Apparatus according to any preceding claim wherein the pressuring means is a centrifugal impeller blower.
8. Apparatus according to any preceding claim, wherein both the inlet and exhaust ports of the pressuring means are communicable with the mask, in use.
9. Apparatus according to claim 8, wherein the inlet and the outlet ports of a centrifugal fan are provided in the same face of the pump
10. Apparatus according to any preceding claim, further incorporating a valve to regulate air, or gas, pressure in the apparatus.

11. Apparatus according to claim 10, wherein the valve regulates air, or gas, pressure in a mask.

12. Apparatus according to claim 11, wherein the valve comprises two body portions separated by a rotatable valve plate

the first body portion interacting with the ventilation mask and defining a mask access chamber connecting both to the interior of the mask and the valve plate, and an exhaust chamber having an outlet to the atmosphere and connecting with the valve plate, but not the ventilation mask;

the valve plate locating over the first valve body portion and having openings to provide communication between chambers of the first valve body portion and the second valve body portion;

the second valve body portion comprising at least two chambers, one of which is enclosed and corresponds to the pressurised air, or gas, and the other serving as a conduit for exhaust air, both chambers being located so as to communicate with the chamber in the first body portion communicating with the mask, as determined by positioning of the valve plate.

13. Apparatus according to claim 12, wherein the valve has three possible settings to provide the patient with positive pressure, negative pressure or atmospheric pressure, and wherein the second body portion of the valve comprises at least three chambers, an optional null chamber, or land, being provided opposite the atmospheric chamber, and wherein the atmospheric chamber exhausts directly to the atmosphere.

14. Apparatus according to any of claims 10-13, wherein the inspiratory to expiratory time ratio is under the control of the apparatus.

15. Apparatus according to any of claims 10-14, wherein the apparatus has the ability to operate at high frequency, up to 1000/minute cpm, or greater.

16. Apparatus according to any preceding claim which is a respirator or ventilator.

17. Apparatus according to any claim 1, wherein the pressure generated by the apparatus is from a maximum of 25cmH₂O during the inspiratory phase and from a

maximum of $-5\text{cmH}_2\text{O}$, to below, at or above ambient pressure during the expiratory phase.

18. Apparatus according to claim 17, wherein the pressure generated by the apparatus is $5\text{-}12\text{ cmH}_2\text{O}$ above ambient pressure.

19. Apparatus according to any preceding claim, wherein the apparatus controls the breathing rate of the patient.

20. Apparatus according to claim 2 or 3, wherein the means for conducting breathable gasses directly to the trachea is an endotracheal tube with, optionally, a standard connection from the endotracheal tube to the means suitable for supplying the breathable gasses.

21. Apparatus according to claim 2, 3 or 20, wherein the means for conducting breathable gasses directly to the trachea is a connecting means for linking the apparatus in a substantially air-tight manner to an existing endotracheal tube.

22. Apparatus according to claim 2, 3 or 20 and 21, wherein the endotracheal tube is connected to the rest of the device through a tracheotomy.

23. Apparatus according to claim 2, 3 or 20-22, wherein apparatus is an invasive respirator.

24. Apparatus according to claim 2, 3 or 20-23, wherein the pressure generated by the apparatus is from a maximum of $40\text{cmH}_2\text{O}$ during the inspiratory phase and from a maximum of $-15\text{cmH}_2\text{O}$, to below, at or above ambient pressure during the expiratory phase.

25. Apparatus according to any preceding claim, wherein the apparatus comprises a filter.

26. Apparatus according to any preceding claim, wherein the apparatus comprises a means for reversibly securing the apparatus to the face or neck of the patient.

27. Apparatus according to any preceding claim, wherein the apparatus comprises a supply or feed of oxygen or breathable gasses.

28. Apparatus according to any preceding claim, wherein the apparatus comprises a means for reversibly securing the apparatus to the face or neck of the patient, thereby allowing the apparatus to be held in place and/or used in a substantially hands-free manner.
29. Apparatus according to any preceding claim, wherein the additional dead space added by the apparatus is 25-50ml, or less.
30. Apparatus according to claim 29, wherein the additional dead space is 5-10ml, or less.
31. Apparatus according to any preceding claim, wherein the apparatus is biphasic.
32. A method of ventilating a patient, comprising equipping the patient with apparatus as defined in any preceding claim, and activating the pressuring means.
33. A method of ventilating a patient in need thereof, comprising the use of an apparatus according to any preceding claim.
34. A valve as defined in any of claims 11 to 15.